



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

W. Tayloe Murphy, Jr.  
Secretary of Natural Resources

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Robert G. Burnley  
Director

Thomas L. Henderson  
Regional Director

### STATE AIR POLLUTION CONTROL BOARD ENFORCEMENT ACTION ORDER BY CONSENT ISSUED TO HUBER ENGINEERED WOODS, LLC, SUCCESSOR TO JM HUBER CORPORATION, REGISTRATION NUMBER 30905

#### SECTION A: Purpose

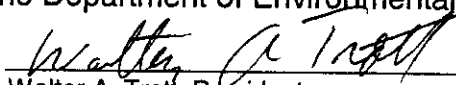
This is a Consent Order issued under the authority of Va. Code §1300 *et seq.* and 10.1-1185 between the State Air Pollution Control Board and Huber Engineered Woods, LLC, for the purpose of resolving certain violations of Part IV.A.8, Part XIV.A.1 and Part XV.C.3 of Huber's Title V permit dated May 22, 2003, as amended on January 22, 2004. These violations were addressed in Notices of Violation (NOVs) dated December 31, 2003, April 22, 2004, and June 23, 2004.

#### SECTION B: Definitions

Unless the context clearly indicates otherwise, the following words and terms have the meanings assigned to them below:

1. "Va. Code" means the Code of Virginia (1950), as amended.
2. "Board" means the State Air Pollution Control Board, a permanent collegial body of the Commonwealth of Virginia described in §10.1-1301 and §10.1-1184.
3. "Department" or "DEQ" means the Department of Environmental Quality, an agency of the Commonwealth of Virginia as described in Va. Code § 10.1-1183.
4. "Director" means the Director of the Department of Environmental Quality.

  
Robert G. Burnley, Director  
Department of Environmental Quality

  
Walter A. Trott, President  
Huber Engineered Woods, LLC

5. "Order" means this document, also known as a Consent Order.
6. "Huber" means Huber Engineered Woods, LLC, successor to JM Huber Corporation, certified to do business in Virginia and its affiliates, partners, subsidiaries and parents.
7. "Facility" means Huber Engineered Woods, LLC, successor to JM Huber Corporation, located in Halifax County, Virginia.
8. "SCRO" means the South Central Regional Office located in Lynchburg, Virginia.
9. "Permit" means the Title V permit which became effective May 22, 2003, as amended on January 22, 2004, and comprised of the following New Source Review (NSR) permits: 1). 8/15/97, as amended 5/14/98, 1/12/00, 12/2/03 and 1/22/04 2). 1/23/02, as amended 1/22/04 and 3). 5/9/02, as amended on 1/22/04.
10. "Regulations" means the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution, which have been incorporated into Title 9 of the Virginia Administrative Code (VAC).

### **SECTION C: Findings of Fact and Conclusions of Law**

1. Huber voluntarily conducted stack testing on the exhaust of RTOs #1 and #2 on March 3-7, 2003.
2. On May 7, 2003, Huber submitted a New Source Review (NSR) permit modification request. As an appendix to the permit application, Huber included the results from the stack testing that was conducted on March 3-7, 2003. The stack testing results demonstrated noncompliance with the carbon monoxide and formaldehyde pound per hour emissions limits outlined in Part IV.A.8 of Huber's Title V permit dated May 22, 2003. As a result, Huber requested permit emission increases.
3. Part IV.A.8 of Huber's Title V permit dated May 22, 2003, states:

Emissions from the operation of the wood-fired energy system, the flake dryers, and the primary control systems shall not exceed

the limits specified below:

...Carbon Monoxide	8.93 lbs/hr	39.1 tons/yr
Formaldehyde	0.14 lbs/hr	0.61 tons/yr...

(9 VAC 5-80-110, 9 VAC 5-50-260, Condition 26.a of 8/15/97 permit, as amended 5/14/98 and 1/12/00)

4. During the March 3-7, 2003, stack testing event, carbon monoxide and formaldehyde emissions from dryer RTOs #1 and #2 were as follows:

Carbon Monoxide	22.6 lbs/hr
Formaldehyde	0.95 lbs/hr

5. Upon further review of the application, it was also noted that press production during the March 2003 testing event was 70,400 square feet per hour on a 3/8" basis.
6. Part XIV.A.1 of Huber's Title V permit dated May 22, 2003, states:

The hourly production of finished Oriented Strandboard shall not exceed 59,600 square feet per hour. The annual production of finished Oriented Strandboard shall not exceed  $522 \times 10^6$  square feet per year, calculated monthly as the sum of each consecutive twelve (12) month period. Each rated square foot is based on a panel thickness of 3/8 inches. (9 VAC 5-80-110 and Condition 19 of 8/15/97 permit, as amended 5/14/98 and 1/12/00)

7. After noting that Huber was exceeding the hourly press throughput limit during the March 2003 stack testing, further hourly press throughput records were requested during an onsite visit on October 21, 2003. On November 5 and 13, 2003, Huber submitted copies of hourly press throughput records for 1999 and January through October 2003. These records were reviewed for compliance with Huber's hourly press throughput limit of 59,600 square feet on a 3/8" basis. (Records were requested for 1999 because that represents the first of five years of recordkeeping. For the purpose of eliminating the amount of paper submitted to DEQ, the records for the years 2000 to 2002 were not requested. It is assumed that the trends seen in the 1999 and 2003 records represent the trends that would be seen in the records for 2000 to 2002 unless the source

submits records that represent otherwise).

8. The results of the hourly press throughput records review are as follows in hours:

	<i>Number of Hours Exceeding Permitted Hourly Press Throughput in a Month</i>	<i>Total Hours in Month</i>	<i>Total Hours of Downtime in Month<sup>a</sup></i>	<i>Total Production Hours in Month<sup>b</sup></i>	<i>Percent of Total Production Hours Exceeding Permitted Hourly Press Throughput in a Month<sup>c</sup></i>
<i>03-Jan</i>	341	744	58	686	49.71
<i>03-Feb</i>	356	672	54	618	57.61
<i>03-Mar</i>	449	744	56	688	65.26
<i>03-Apr</i>	471	720	17.5	702.5	67.05
<i>03-May</i>	435	744	144	600	72.50
<i>03-Jun</i>	427	720	52	668	63.92
<i>03-Jul</i>	474	744	64	680	69.71
<i>03-Aug</i>	456	744	16	728	62.64
<i>03-Sep</i>	410	720	58	662	61.93
<i>03-Oct</i>	485	744	24	720	67.36
<i>Jan-99</i>	20	744	34	710	2.82
<i>Feb-99</i>	18	672	32	640	2.81
<i>Mar-99</i>	14	744	196	548	2.55
<i>Apr-99</i>	47	720	32	688	6.83
<i>May-99</i>	86	744	32	712	12.08
<i>Jun-99</i>	88	720	40	680	12.94
<i>Jul-99</i>	73	744	20	724	10.08
<i>Aug-99</i>	76	744	34	710	10.70
<i>Sep-99</i>	69	720	41.9	678.1	10.18

<sup>a</sup>The total hours of downtime during the month was determined from JM Huber Corporation's submittal of scheduled downtime dated November 17, 2003, received on November 19, 2003.

<sup>b</sup>The total production hours in the month was determined by subtracting the total hours of downtime in the month from the total hours in the month.

<sup>c</sup>The percent of total production hours exceeding permitted hourly press throughput in a month was determined by multiplying the number of hours exceeding permitted hourly press throughput in a month by 100 and then dividing that by the total production hours in the month.

9. The results of the hourly press throughput records review are as follows in days:

	<i>Number of Production Days in Month With At Least One Hour Exceeding Permitted Press Throughput</i>	<i>Total Number of Days in Month</i>	<i>Percent of Total Production Days With At Least One Hour Exceeding Permitted Press Throughput<sup>a</sup></i>
<i>03-Jan</i>	30	31	96.77
<i>03-Feb</i>	27	28	96.43
<i>03-Mar</i>	30	31	96.77
<i>03-Apr</i>	30	30	100.00
<i>03-May</i>	25	31	80.65
<i>03-Jun</i>	27	30	90.00
<i>03-Jul</i>	31	31	100.00
<i>03-Aug</i>	28	31	90.32
<i>03-Sep</i>	28	30	93.33
<i>03-Oct</i>	31	31	100.00
<i>Jan-99</i>	5	31	16.13
<i>Feb-99</i>	8	28	28.57
<i>Mar-99</i>	5	31	16.13
<i>Apr-99</i>	13	30	43.33
<i>May-99</i>	18	31	58.06
<i>Jun-99</i>	17	30	56.67
<i>Jul-99</i>	17	31	54.84
<i>Aug-99</i>	17	31	54.84
<i>Sep-99</i>	18	30	60.00

<sup>a</sup>The percent of total production days with at least one hour exceeding permitted press throughput was determined by

multiplying the number of production days in the month with at least one hour exceeding permitted press throughput by 100 and then dividing that by the total number of days in the month.

10. In addition, Huber submitted a Title V Semi-Annual Deviation Report on August 29, 2003, covering the reporting period of May 22, 2003, to June 30, 2003. Huber reported deviations in their quarterly CEMs report and deviations due to malfunction. Huber did not report the deviations to Part IV.A.8 and Part XIV.A.1 of Huber's Title V permit dated May 22, 2003, as outlined above.

11. Part XV.C.3 of Huber's Title V permit dated May 22, 2003, states:

The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than March 1 and September 1 of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

- a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31.
- b. All deviations from permit requirements. For purposes of this permit, deviations include, but are not limited to:
  - (1) Exceedance of emissions limitations or operational restrictions;
  - (2) Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or compliance assurance monitoring which indicates an exceedance of emission limitations or operational restrictions; or,
  - (3) Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.
- c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that "no deviations from permit requirements occurred during this semi-annual reporting period."  
(9 VAC 5-80-110 F)

12. A Notice of Violation was issued to JM Huber Corporation on December 31, 2003, to address the above violations outlined in items 1-11.

13. Huber conducted stack testing on November 7-13, 2003. Huber conducted the

stack testing to satisfy the requirements of Part IV.E.1 of Huber's Title V permit dated May 22, 2003.

14. On January 12, 2004, Huber submitted the results of the November stack testing event. The stack testing results demonstrated noncompliance with the carbon monoxide pound per hour emissions limits in Part IV.A.8 of Huber's Title V permit dated May 22, 2003.
15. Part IV.A.8 of Huber's Title V permit dated May 22, 2003, states:

Emissions from the operation of the wood-fired energy system, the flake dryers, and the primary control systems shall not exceed the limits specified below:

...Carbon Monoxide 8.93 lbs/hr 39.1 tons/yr...

(9 VAC 5-80-110, 9 VAC 5-50-260, Condition 26.a of 8/15/97 permit, as amended 5/14/98 and 1/12/00)

16. During the November 7-13, 2003, stack testing event, carbon monoxide emissions from dryer RTOs #1 and #2 were as follows:

Carbon Monoxide 26.25 lbs/hr

17. A Notice of Violation was issued to Huber Engineered Woods, LLC, on April 22, 2004, to address the above violation outlined in items 13-16. (JM Huber Corporation changed their name to Huber Engineered Woods, LLC on 1/1/04).
18. Huber conducted stack testing on November 7-13, 2003. Huber conducted the stack testing to satisfy the requirements of Part IV.E.1 of Huber's Title V permit dated May 22, 2003, as amended on January 22, 2004.
19. On January 12, 2004, Huber submitted the results of the November stack testing event. Compliance with the emission limits for formaldehyde and phenol could not be determined based on the November 2003 stack testing because the source used a test method that did not have a low enough detection limit.
20. Huber completed retesting for formaldehyde and phenol using different test methods on April 29, 2004.
21. Huber submitted the results of the April 2004 testing event on June 10, 2004.

22. The stack testing results demonstrated noncompliance with the formaldehyde pound per hour emissions limits in Part IV.A.8 of Huber's Title V permit dated May 22, 2003, as amended on January 22, 2004.

23. Part IV.A.8 of Huber's Title V permit dated May 22, 2003, as amended on January 22, 2004, states:

Emissions from the operation of the wood-fired energy system, the flake dryers, and the primary control systems shall not exceed the limits specified below:

...Formaldehyde      0.14 lbs/hr      0.61 tons/yr...

(9 VAC 5-80-110, 9 VAC 5-50-260, 40 CFR 60 Subpart Dc and Condition 26.a of 8/15/97 permit, as amended 5/14/98, 1/12/00, 12/2/03 and 1/22/04)

24. During the April 29, 2004, stack testing event, formaldehyde emissions from dryer RTOs #1 and #2 were as follows:

Formaldehyde                      0.4626 lbs/hr

25. A Notice of Violation was issued to Huber Engineered Woods, LLC, on June 23, 2004, to address the above violation outlined in items 18-24.

## **SECTION D: Agreement and Order**

Accordingly, the Board, by virtue of the authority granted it in Va. Code §10.1-1307 (D), 10.1-1309, 10.1-1184, 10.1-1316 (C) and 10.1-1186.2, orders Huber Engineered Woods, LLC, and Huber Engineered Woods, LLC, agrees that:

1. Huber Engineered Woods, LLC shall pay a civil charge of \$371,958.00 for the violations described in Section C of this order. Huber Engineered Woods, LLC may satisfy its obligations to pay in part by performing the Supplemental Environmental Project (SEP) described in Appendix A of this Order.
2. Huber Engineered Woods, LLC shall make a payment of \$92,990.00 of this civil charge within 30 days of the effective date of the Order in settlement of the



violations cited in this Order. Payment shall be made by check payable to the "Treasurer of Virginia," delivered to:

Receipts Control  
Department of Environmental Quality  
Post Office Box 10150  
Richmond, Virginia 23240

3. Huber Engineered Woods, LLC shall include its Federal Identification Number with the civil charge payment and shall indicate that the payment is being made in accordance with the requirements of this Order.
4. Huber Engineered Woods, LLC shall implement the SEP as identified in Appendix A of this Order. The cost to Huber Engineered Woods, LLC for the SEP shall be a minimum of \$278,968.00. Huber Engineered Woods, LLC shall submit quarterly SEP progress reports to the DEQ within 30 days following the end of the calendar quarter. Upon completion of the SEP, pursuant to Virginia Code §10.1-1186.2 and as described in Appendix A, Huber Engineered Woods, LLC shall within 30 days, but no later than November 1, 2005, provide a completion report including actual SEP costs to the Department.
5. In the event that the SEP is not performed as described in Appendix A, upon the Department's determination of non-performance and within 30 days of notification by the Department, the civil charge is due in full. Huber Engineered Woods, LLC shall pay the amount of the SEP specified in paragraph 4 of this Section.
6. Huber Engineered Woods, LLC shall submit a corrected Semi-Annual Deviation Report covering the period of May 22, 2003 to June 30, 2003 within 30 days of the date that Huber signs this Order.
7. Compliance with formaldehyde emissions limits will be addressed in accordance with 40 CFR, Part 63, Subpart DDDD, Plywood and Composite Wood Products Manufacture National Emission Standards for Hazardous Air Pollutants.
8. Compliance with carbon monoxide emissions limits will be addressed in accordance with 40 CFR Part 64, Compliance Assurance Monitoring (CAM).

## **SECTION E: Administrative Provisions**

1. The Board may modify, rewrite, or amend this agreement with the consent of Huber Engineered Woods, LLC, for good cause shown by Huber Engineered Woods, LLC, or on its own motion after notice and an opportunity to be heard.
2. This Order only addresses and resolves those violations specifically identified herein, including those matters addressed in the Notices of Violation issued to Huber Engineered Woods, LLC, by DEQ on December 31, 2003, April 22, 2004, and June 23, 2004. This Order shall not preclude the Board or the Director from taking any action authorized by law, including but not limited to: (1) taking any action authorized by law regarding any additional, subsequent, or subsequently discovered violations; (2) seeking subsequent remediation of the facility as may be authorized by law; or (3) taking subsequent action to enforce the Order. This Order shall not preclude appropriate enforcement actions by other federal, state, or local regulatory authorities for matters not addressed herein.
3. For purposes of this Order and subsequent actions with respect to this Order, Huber Engineered Woods, LLC, admits the jurisdictional allegations, but neither admits nor denies the factual findings and conclusions of law contained herein.
4. Huber Engineered Woods, LLC, consents to venue in the Circuit Court of the City of Richmond for any civil action taken to enforce the terms of this order.
5. Huber Engineered Woods, LLC, declares it has received fair and due process under the Administrative Process Act, Va. Code § 2.2 4000 *et seq.*, and the State Air Pollution Control Law and it waives the right to any hearing or other administrative proceeding authorized or required by law or regulation, and to any judicial review of any issue of fact or law contained herein. Nothing herein shall be construed as a waiver of the right to any administrative proceeding for, or to judicial review of, any action taken by the Board to enforce this Order.
6. Failure by Huber Engineered Woods, LLC, to comply with any of the terms of this Order shall constitute a violation of an order of the Board. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of additional orders as appropriate by the Board or the Director as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.
7. If any provision of this Order is found to be unenforceable for any reason, the remainder of the Order shall remain in full force and effect.

8. Huber Engineered Woods, LLC, shall be responsible for failure to comply with any of the terms and conditions of this Order unless compliance is made impossible by earthquake, flood, other acts of God, war, strike, or such other occurrence. Huber Engineered Woods, LLC, shall show that such circumstances were beyond its control and not due to a lack of good faith or diligence on its part. Huber Engineered Woods, LLC, shall notify the DEQ Regional Director in writing when circumstances are anticipated to occur, are occurring, or have occurred that may delay compliance or cause noncompliance with any requirement of the Order. Such notice shall set forth:
  - a. the reasons for the delay or noncompliance;
  - b. the projected duration of any such delay or noncompliance;
  - c. the measures taken and to be taken to prevent or minimize such delay or noncompliance; and
  - d. the timetable by which such measures will be implemented and the date full compliance will be achieved.Failure to so notify the Regional Director within 24 hours of learning of any condition above, which the parties intend to assert will result in the impossibility of compliance, shall constitute a waiver of any claim of inability to comply with a requirement of this Order.
9. This Order is binding on the parties hereto, their successors in interest, designees and assigns, jointly and severally.
10. This Order shall become effective upon execution by both the Director or his designee and Huber Engineered Woods, LLC. Notwithstanding the foregoing, Huber Engineered Woods, LLC, agrees to be bound by any compliance date which precedes the effective date of the Order.
11. This Order shall continue in effect until the Director or Board terminates the Order in his or its sole discretion upon 30 days written notice to Huber Engineered Woods, LLC. Termination of this Order, or any obligation imposed in this Order, shall not operate to relieve Huber Engineered Woods, LLC, from its obligation to comply with any statute, regulation, permit condition, other order, certificate, certification, standard, or requirement otherwise applicable.
12. By its signature below, Huber Engineered Woods, LLC, voluntarily agrees to the issuance of this Order.

And it is so ORDERED this day of September 17, 2004.

Robert G. Burnley for

Robert G. Burnley, Director  
Department of Environmental Quality

Huber Engineered Woods, LLC, voluntarily agrees to the issuance of this Order.

By: Walter A. Trott  
President

Date: Sept 15, 2004

State of North Carolina

~~Commonwealth of Virginia~~ City/County of Mecklenburg

The foregoing instrument was acknowledged before me this 15th day of  
September, 2004, by Walter A. Trott,  
(name)  
who is President of Huber Engineered Woods,  
(title)  
LLC on behalf of the Corporation.

Gloria L. Miller  
Notary Public

My commission expires August 29, 2006.

## **Appendix A**

### **Supplemental Environmental Project**

**SUPPLEMENTAL ENVIRONMENTAL PROJECT FOR PARTIAL  
SETTLEMENT OF CIVIL PENALTIES ASSESSED BY DEPARTMENT OF  
ENVIRONMENTAL QUALITY ENFORCEMENT ACTION ORDER BY  
CONSENT ISSUED TO HUBER ENGINEERED WOODS, LLC, SUCCESSOR  
TO JM HUBER CORPORATION, REGISTRATION NUMBER 30905**

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The Supplemental Environmental Project (SEP) proposed by Huber Engineered Woods LLC Crystal Hill Oriented Strand Board facility is outlined in detail below. This SEP project is being undertaken as part of the settlement of an enforcement action taken by the Virginia Department of Environmental Quality, Southeast Regional Office for Notices of Violation dated December 31, 2003, April 22, 2004 and June 23, 2004.

**I. Supplemental Environmental Project Defined**

A Supplemental Environmental Project (SEP hereinafter) is defined as an environmentally beneficial project(s) which a party agrees to undertake in partial settlement of an enforcement action, but which the party is not otherwise legally required to perform. **(Chapter 5 Supplemental Environmental Projects: VADEQ Enforcement Manual)**

*Environmentally friendly* means a SEP must improve, protect or reduce risks to the public health, and/or the environment at large, while still offering the party with certain benefits.

*In partial settlement of an enforcement action* means the regulatory department has the opportunity to review and approve, and potentially assist in shaping the scope of the project prior to its implementation. The party cannot commence with a project prior to the regulatory departments identification of a violation and approved the SEP as part of the settlement of that violation.

*Not otherwise legally required to perform* means the project is not required by any federal, state or local law or regulation. The SEP cannot include actions which the party may be required to perform as 1) Injunctive relief in the instant case, 2) Part of a settlement or order in another legal action and 3) for other federal, state or local requirements that the defendant/respondent would become legally obligated to undertake within two (2) years of the date of the order.

**II. Legal Requirements**

Any SEP must have “a *reasonable geographic nexus*” to the violation, and VADEQ prefers that projects also serve one of the declared objectives of the underlying law or regulation. In order to achieve a *reasonable geographic nexus*, a SEP must benefit the general area in which the underlying violation occurred, not to exceed 50 miles from the violation without detailed justification; and must be performed within the Commonwealth and benefit the Commonwealth.

**III. Enforceability**

Performance of SEPs is enforceable in the same manner as any other term or condition of an order; therefore, to ensure enforceability SEPs are made a part of Consent Orders or Consent Decrees. The Order or Decree shall accurately and completely describe the SEP, specific actions required for the performance or implementation of the SEP, the timing of such actions and the result to be achieved. Verification of compliance of the SEP and its final overall cost is required. The Order or Decree may include periodic reports if deemed necessary.

#### **IV. Categories of Supplemental Environmental Projects**

There are six (6) categories of projects that may qualify as SEPs. These categories are:

- Public Health
- Pollution Prevention
- Pollution Reduction
- Environmental Restoration & Protection
- Environmental Compliance Promotion
- Emergency Planning & Preparedness

#### **V. Huber Engineered Woods LLC Supplemental Environmental Project Proposal**

The Crystal Hill (CH hereinafter) Huber Engineered Woods LLC oriented strand board facility proposes to address the category of Pollution Reduction with its actions and implementation of plans and capital equipment. The proposal would include:

1. Addition of a water treatment system (centrifuge) to the process water associated with the WESPs
2. Upgrade & modify one wet electrostatic precipitator (WESP)
3. The addition of one additional "swing" regenerative thermal oxidizer (RTO) to the Emission Unit ES&D (Energy System & Dryers)

Each of these activities will be discussed in greater detail below, and, in the context of demonstrating the manner in which the proposed projects meet the statutory requirements of a SEP, i.e. *environmentally beneficial, in partial settlement of an enforcement action, not otherwise legally required to perform, reasonable geographic nexus and enforceable*; and how each project fulfills the requirements in meeting the categories of *Pollution Prevention* and *Pollution Reduction*.

Collectively, these projects undertake a multi-media approach to improving water and air quality through the reduction of pollution upstream in the process versus end of pipe controls. Two of the three project segments seek to improve the removal of particulate matter from the process air stream and air pollution control water recycling systems, which will reduce added pollutants to the end of pipe control systems; and will also improve operating performance of the final control device. The third segment (swing RTO) is designed as a redundant system to prevent upset conditions and compromised performance of the existing RTOs that would occur over a longer period of time from particulate carryover to the RTO media beds.

The estimated combined gross total cost of the three project segments equates to Five Million Two Hundred Sixty-Six Thousand One Hundred Twenty Four Dollars (\$5,266,124.00). The ***net project cost*** is calculated to be Three Million Four Hundred Sixty One Thousand Nine Hundred Twenty Three Dollars (\$3,461,923.00). The net cost valuation is provided to the Department in the attached spreadsheet marked as **Appendix 1 Net Cost Evaluation**.

##### **A. Addition of a water treatment system (centrifuge) to the process water associated with the WESPs**

The wet electrostatic precipitator is designed to remove particulate from the waste gas stream. In doing so, the water used to accomplish this task becomes heavily laden with solids, both suspended and dissolved. This water is called "recycled water" and is used continuously in the process. The recycled water tank is critical to operations and is only available to be cleaned during extended outages.

Total suspended solids collected in the wet electrostatic precipitator water recycle system have reached a concentration greater than 35-40% at which point the collection efficiency of the precipitators is compromised. Water lines and quench nozzles may become plugged, reducing or completely eliminating one key particulate scrubbing design aspect of the system. The dryer exhaust gas stream temperature is not sufficiently reduced to provide saturation of the gas stream, which adversely affects the “dropping out” of condensable organic compounds. With compromised pre-scrubbing of the gas stream, the precipitator grid system is overloaded with a tacky particulate matter which coats the ducts, e-tubes and probes which compromises collection efficiency of the system. This greatly reduces the ability of the precipitator to charge the sub-micron particles that it was designed to collect. In addition, the combination of large particulate matter, super-saturated condensable organic solution, and the sub-micron inorganic particulate matter is ultimately carried past the collection tubes without being collected, overloading the mist elimination system and blow-down system and continuing on to the RTO. This material then becomes imbedded in the RTO media, coating the ductwork, dampers & damper seats and media support grid with tacky organic sludge. This accumulation of material can result in compromised airflow, compromised destruction efficiency for volatile organic compounds and carbon monoxide (risking non-compliance), increased- stack opacity (risking non-compliance), increased natural gas (depletable resource) usage (more frequent bake-outs for particulate matter and higher combustion chamber temperature for CO destruction), increased emissions of nitrogen oxides (risking non-compliance) and increased risk of catastrophic failure. Excessive plugging of the RTO media beds due to the particulate carryover results in more frequent bake-outs with associated emissions (PM, CO, NOx, VOC) and wash-outs (increasing the opportunity for thermal shock and degradation of media), reduced thermal efficiency, higher natural gas usage, water, labor and maintenance costs and reduced life of the ceramic media.

The most recent wet electrostatic precipitator systems installed within the wood products industry have incorporated the use of a centrifuge to remove the suspended solids from the recycle water systems. It has been found that by removing these larger solids, the amount of blow down (excess) is reduced while enhancing the blow down systems to a manageable level of dissolved solids. High concentrations of dissolved solids are the primary carrier of alkaline salts to the RTO media beds, causing degradation of the media bed’s structural integrity, and subsequently migrating to the upper surface layers of the media bed, melting at the high temperatures and attacking the ceramic media, resulting in loss of mass and large areas of air flow blockage.

### **Project Cost**

The total estimated project cost includes the material, labor, and equipment to install the new system as described.

Centrifuge Project	
EPCM Services	40,000
Centrifuge Equipment	\$150,000
Civil / Structural	\$50,000
Pump	\$5,000
Piping	\$15,000
Electrical	\$25,000
Miscellaneous	\$10,000
Subtotal	\$295,000
Contingency @ 6.3%	\$21,000
Total Centrifuge Project Cost	\$316,000



- **Environmentally beneficial:**
  - Reduces excess emissions to atmosphere by improving RTO efficiency and reducing upset conditions
  - Improves utilization of water through recycling of treated water
  - Conserves water by reducing total RTO washouts, amount of makeup water required for flush cycles
- **Not otherwise legally required to perform**
  - Not required by as injunctive relief in the instant case
  - Is not a part of a settlement or order in another legal action
  - Is not required by current or pending other federal, state or local requirements
- **Geographic Nexus:**
  - Benefits the surrounding community in reducing the potential for contamination to waters of the Commonwealth of Virginia, specifically Little Terrible Creek, a tributary stream to the Bannister River of the Crystal Hill community, Halifax County and the Commonwealth of Virginia
- **Enforceable:**
  - See project implementation schedule
- **Pollution Reduction:**
  - Reduces emissions of carbon monoxide due to excessive buildup of organic particulate matter in RTO dampers, ceramic media and ductwork.

**B. Upgrade & modification to one wet electrostatic precipitator (WESP) initially as a performance trial (WESP No. 3)**

The dryer exhaust gas stream is quenched with water to cool and saturate the exhaust gases and to scrub larger particulate matter from the air stream. An ionized electrode attracts charged particles to the surface of the tube bundles. The tube bundles are flushed on a scheduled frequency and duration to remove the charged particles from the collection tubes. Since the collected solids build up, water treatment (discussed above) is required to remove the suspended solids and allow for more efficient operation. On the existing WESPs, reduced secondary voltage and current occurs due to the excessive buildup of the resinous pitchy particulate matter on the probes and tube bundles, which results in carryover to the RTOs, requiring excessive bake outs and wash outs. Therefore, the following voluntary modification is proposed to improve the particulate removal efficiency of one WESP unit.

**Replace T/R Sets & Probes:** It is proposed to upgrade one existing GeoEnergy WESP to improve the filterable PM removal efficiency. The best way to accomplish this is to remove the old Transformer/Rectifier sets and probes and replace them with new higher output T/R sets and probes. The technology of the new T/R sets has been updated to a higher frequency that operates at a higher constant voltage rather than peak. The 304 SS probes have a ball-joint pivot to provide better alignment within the tube and a saw-tooth design disc for improved particle charging.

**Project Cost**

The total estimated project cost includes the material, labor, and equipment to modify one WESP as described.

WESP Upgrade Project, (WESP No. 3)	
	Itemized Cost
High Frequency Transformers & probes	\$120,000
Install	\$55,000
In-line self cleaning basket strainers / Super strainer	\$25,000
Modified WESP Exhaust Hood	\$25,000

Modified Inlet Quench Duct System	\$35,000
Sub-total	\$260,000
Contingency @ 6.3%	\$16,400
Total Project Cost	<b>\$276,400</b>

- **Environmentally beneficial:**
  - Reduces excess emissions to atmosphere by reducing total PM carryover to RTOs, which plugs media beds, contaminates RTO dampers, ducts, seals which will reduce “regenerated” carbon monoxide emissions due to incomplete combustion within the media beds.
  - Conserves water by reducing total number of RTO washouts,
  - Reduces potential contamination of storm water by reducing frequency, duration of RTO washouts
  - Conserves natural resource (natural gas) by reducing number of potential bake outs of units to remove organic particulate buildup
- **Not otherwise legally required to perform**
  - Not required by injunctive relief in the instant case
  - Is not a part of a settlement or order in another legal action
  - Is not required by current or pending other federal, state or local requirements
- **Geographic Nexus:**
  - Benefits the surrounding community in reducing the potential for contamination to Little Terrible Creek, a tributary stream to the Bannister River of the Crystal Hill community, Halifax County and the Commonwealth of Virginia (see Environmentally beneficial)
- **Enforceable:**
  - See project implementation schedule
  -
- **Pollution Reduction:**
  - Reduces carryover of excess particulate matter to RTOs which cause excessive number and duration of bake-outs (opacity/PM emissions during bake-outs) with associated emissions and excessive washouts (less polluted water to treat, store or handle)
  - Reduced emissions of carbon monoxide due to excessive buildup of organic particulate matter in RTO dampers, ceramic media and ductwork

### **C. Addition of one (1) swing Regenerative Thermal Oxidizer**

The addition of a third RTO to the Heat Energy and Dryer air pollution control equipment to act as a “swing” RTO will enable the facility to manage the operation of the APC group in a manner to improve operational efficiency of those units on-line. By having redundant RTO capacity available, the facility will have the flexibility to “swing” a clean unit into the control loop when one of the other operating RTOs exhibits symptoms indicating pressure drop increase due to particulate buildup in the ceramic media bed. This will also enable the facility to avoid the potential for excessive fugitive emissions associated with increased pressure drop in the mix box due to lack of process flow capability through the RTO(s). With the addition of continuous parameter monitoring systems to the RTO outlet stacks, the monitoring of carbon monoxide outlet concentration will also be an indicator for symptoms that lead to the generation of carbon monoxide, such as damper malfunction, excessive particulate build-up within the system ductwork, dampers, and/or ceramic media beds.

### **Project Cost**

The total estimated project cost includes the material, labor, and equipment to add one 125,000 ACFM swing RTO as described.

<b>Description</b>	<b>Total Price</b>
Swing RTO Equipment	\$2,265,000
Mix Box Repair	\$250,000
Electrical Upgrade	\$812,000
CEMS	\$175,000
Control System	\$115,000
Utilities	\$41,700
Fire Protection	\$30,000
Miscellaneous	\$24,500
EPCM Services	\$605,400
Subtotal	<b>\$4,318,600</b>
Contingency @ 6.3%	<b>\$272,072</b>
Demolition	<b>\$83,050</b>
Total Project Cost	<b>\$4,673,722</b>

- **Environmentally beneficial:**
  - Reduces excess emissions to atmosphere by allowing facility to “swing” to redundant RTO when monitored process parameters of on-line unit(s) indicate symptoms indicative of the generation of carbon monoxide from particulate buildup in the ceramic media beds, dampers etc.
  - Reduces excess emission to atmosphere by allowing facility to “swing” to redundant RTO when a malfunction occurs to one of the two on-line RTO systems
  - Improves the facilities ability to perform preventative maintenance to ensure efficient operability of the air pollution control equipment.
  - Conserves natural resource (natural gas) by reducing number of potential bake outs of units to remove organic particulate buildup
- **Not otherwise legally required to perform**
  - Not required by as injunctive relief in the instant case
  - Is not a part of a settlement or order in another legal action
  - Is not required by current or pending other federal, state or local requirements
- **Geographic Nexus:**
  - Benefits the surrounding community in preventing/reducing the potential for excess emissions to the local community and the regional environment, by improving air quality through improved control of emissions.
- **Enforceable:**
  - See project implementation schedule
- **Pollution Reduction:**
  - Reduces potential excess emissions associated from air pollution control equipment malfunction
  - Reduces potential generation of additional carbon monoxide from “re-generation” due to excessive buildup of organic particulate matter in the heat recovery ceramic media beds of the RTOs.

- Provides redundant system for air pollution control that allows facility to perform preventative maintenance tasks to systems that exhibit symptoms of degrading performance

#### **VI. Supplemental Environmental Project Implementation Schedule**

***SEE EXCEL SPREADSHEET MARKED AS APPENDIX 2 FOR SCHEDULE OF PROJECT MILESTONES***



## APPENDIX 1

### NET COST EVALUATION

#### Crystal Hill, VA Special Environmental Project (000's)

Estimate of Project Spending \$ 5,266,124  
RTO, Wesp's, Centrifuge

#### Gain on CM

Footage Gain	378 Hours x 55,555 msf per hour	20,999,790	
5 Year Average Contribution Margin per msf	(2000 through year to date 2004)	\$ 147.69	
		<b>\$ 3,101,459</b>	
Less: Production & Fixed Costs		<b>\$ (130,000)</b>	
			\$ 2,971,459
Tax Impact			
Tax Depreciation		\$ 862,000	
Taxable Income		<b>\$ 2,109,459</b>	
At 24% Incremental Tax Rate			<b>\$ (506,270)</b>
			<b>\$ 2,465,189</b>
Loss Production (net of taxes)			
Downtime for WESP Tie-in	18 Hours x 55,555 msf per hour = 999,990 x CM	\$ 112,243	
Downtime for RTO Tie-in	88 Hours x 55,555 msf per hour = 4,888,840 x CM	\$ 548,745	<b>\$ (660,988)</b>

**Net Gain:** \$ 1,804,201

**Total Net Project Cost:** **\$ 3,461,923**

*Statement: Huber Engineered Woods LLC is not benefiting from any other identifiable tax credit savings other than those accounted for in this worksheet.*

<b>Appendix 2 SEP Milestone Schedule</b>		<u>Sep-04</u>	<u>Oct-04</u>	<u>Nov-04</u>	<u>Dec-04</u>	<u>Jan-05</u>	<u>Feb-05</u>	<u>Mar-05</u>	<u>Apr-05</u>	<u>May-05</u>	<u>Jun-05</u>	<u>Jul-05</u>	<u>Aug-05</u>	<u>Sep-05</u>	<u>Oct-05</u>	<u>Nov-05</u>	<u>Dec-05</u>
<b><u>Swing RTO Project</u></b>																	
RFQ Review / Select RTO Supplier																	
Issue Purchase Order for Swing RTO																	
Construct / Install Swing RTO																	
Commission RTO																	
Start-up Equipment for Operational Use																	
<b><u>Centrifuge Project</u></b>																	
RFQ/Evaluate Proposals/Issue Purchase Order for Centrifuge																	
Install Centrifuge																	
Commission Centrifuge																	
Start-up Equipment for Operational Use																	
<b><u>Trial WESP Up-grade Project</u></b>																	
RFQ / Evaluate Proposals / Select Vendor																	
Issue Purchase Order for WESP Upgrades																	
Construct / Install WESP Upgrades on WESP No. ____																	
Commission Trial WESP																	
Start-up Equipment for Operational Use																	
Conduct Performance Evaluation																	
<b><u>VADEQ Notification / SEP Closure</u></b>																	
Thirty day Notification of Completion / Close of Accounting																	
SEP Project Closure Complete																	

[illegible]